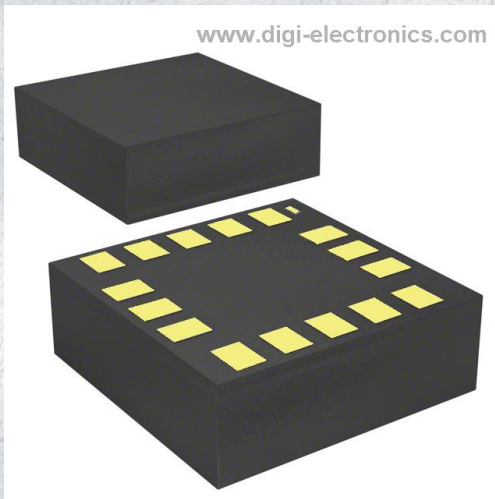


ICG-20660L Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	ICG-20660L-DG
Manufacturer	TDK InvenSense
Manufacturer Product Number	ICG-20660L
Description	6-AXIS MOTIONTRACKING DEVICE THA
Detailed Description	Accelerometer, Gyroscope, 6 Axis Sensor I2C, SPI Output

This model ICG-20660L is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

ICG-20660L

Series:

MotionTracking™

Sensor Type:

Accelerometer, Gyroscope, 6 Axis

Operating Temperature:

-40°C ~ 85°C

Supplier Device Package:

16-LGA (3x3)

Base Product Number:

ICG-20660

Manufacturer:

TDK InvenSense

Product Status:

Obsolete

Output Type:

I2C, SPI

Package / Case:

16-WFLGA Module

Mounting Type:

Surface Mount

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

3 (168 Hours)

ECCN:

EAR99

High Performance 6-Axis OIS/EIS Optimized MEMS Sensor

GENERAL DESCRIPTION

The ICG-20660/L is a 6-axis MotionTracking device that combines a 3-axis gyroscope, 3-axis accelerometer, in a small 3x3x0.75 mm (16-pin LGA) package.

- High performance specs
 - ICG-20660L: Gyroscope sensitivity error: $\pm 1\%$
 - Gyroscope noise: 6.5mdps/ $\sqrt{\text{Hz}}$
- Includes 512-byte FIFO to reduce traffic on the serial bus interface, and reduce power consumption by allowing the system processor to burst read sensor data and then go into a low-power mode
- EIS FSYNC support

The only difference between the 2 devices is the gyro initial sensitivity where it is 1% on ICG-20660L and it is 3% on ICG-20660.

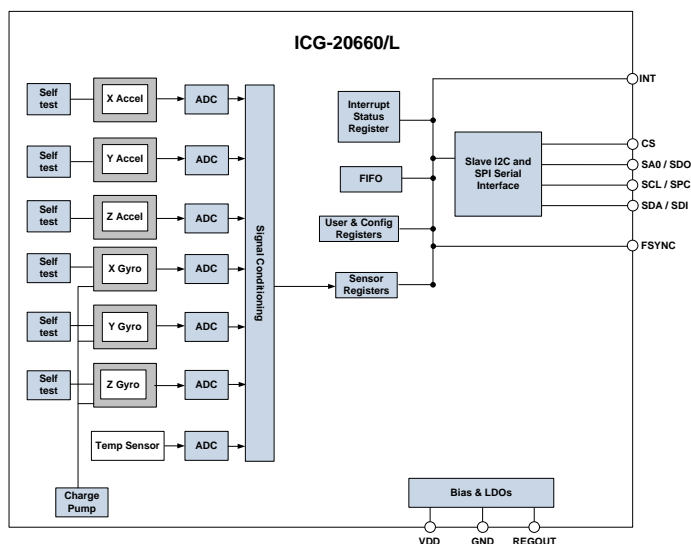
The ICG-20660 includes on-chip 16-bit ADCs, programmable digital filters, an embedded temperature sensor, and programmable interrupts. The device features an operating voltage range down to 1.71 V. Communication ports include I²C and high speed SPI at 7 MHz.

ORDERING INFORMATION

PART	AXES	TEMP RANGE	PACKAGE
ICG-20660+	X,Y,Z	-40°C to +85°C	16-Pin LGA
ICG-20660L+	X,Y,Z	-40°C to +85°C	16-Pin LGA

†Denotes RoHS and Green-Compliant Package

BLOCK DIAGRAM



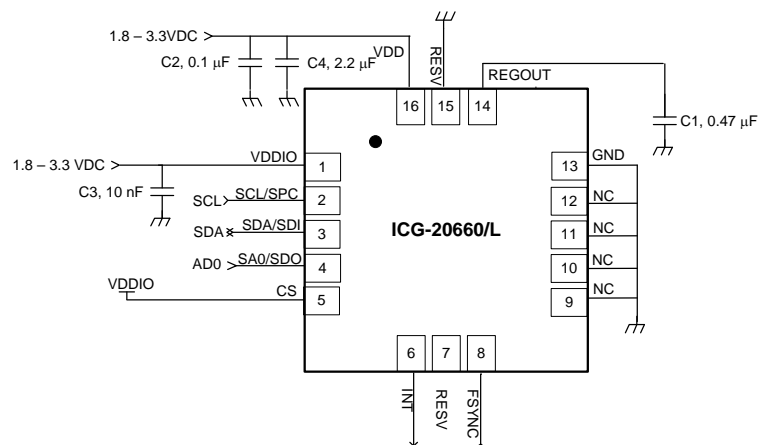
APPLICATIONS

- OIS (Optical Image Stabilization) in phone camera modules, DSLR, and DSC
- EIS (Electronic Image Stabilization) in DSC, and phone camera modules

FEATURES

- ICG-20660L: $\pm 1\%$ Gyro initial sensitivity eliminates OIS dynamic calibration
- ICG-20660: $\pm 3\%$ Gyro initial sensitivity
- 3-Axis optimized OIS/EIS programmable gyro FSR of ± 125 dps, ± 250 dps, ± 500 dps and ± 250 dps
- 3-Axis Accelerometer with Programmable FSR of $\pm 2g$, $\pm 4g$, $\pm 8g$ and $\pm 16g$
- User-programmable interrupts
- Wake-on-motion interrupt for low power operation of applications processor
- 512-byte FIFO buffer enables the applications processor to read the data in bursts
- On-Chip 16-bit ADCs and Programmable Filters
- Host interface: 7 MHz SPI or 400 kHz Fast Mode I²C
- Digital-output temperature sensor
- VDD operating range of 1.71 V to 3.45 V
- MEMS structure hermetically sealed and bonded at wafer level
- RoHS and Green compliant

TYPICAL OPERATING CIRCUIT



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